

1. Simplify the expression below into the form $a + bi$. Then, choose the intervals that a and b belong to.

$$(6 - 10i)(8 + 2i)$$

- A. $a \in [67, 73]$ and $b \in [68, 74]$
- B. $a \in [67, 73]$ and $b \in [-69, -62]$
- C. $a \in [26, 32]$ and $b \in [-95, -86]$
- D. $a \in [48, 51]$ and $b \in [-21, -19]$
- E. $a \in [26, 32]$ and $b \in [89, 94]$

2. Simplify the expression below into the form $a + bi$. Then, choose the intervals that a and b belong to.

$$\frac{-9 - 33i}{4 + 6i}$$

- A. $a \in [-234.5, -233]$ and $b \in [-2, 0]$
- B. $a \in [2, 4]$ and $b \in [-4, -2.5]$
- C. $a \in [-5, -4]$ and $b \in [-79, -77]$
- D. $a \in [-5, -4]$ and $b \in [-2, 0]$
- E. $a \in [-2.5, -2]$ and $b \in [-7, -4]$

3. Choose the **smallest** set of Real numbers that the number below belongs to.

$$-\sqrt{\frac{361}{196}}$$

- A. Rational
- B. Not a Real number
- C. Whole
- D. Irrational

E. Integer

4. Simplify the expression below and choose the interval the simplification is contained within.

$$16 - 14^2 + 3 \div 10 * 20 \div 8$$

- A. $[-179.98, -179.06]$
 - B. $[211.55, 212.23]$
 - C. $[-180.46, -179.51]$
 - D. $[212.7, 213.41]$
 - E. None of the above
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5. Choose the **smallest** set of Real numbers that the number below belongs to.

$$\sqrt{\frac{49}{529}}$$

- A. Rational
 - B. Integer
 - C. Irrational
 - D. Not a Real number
 - E. Whole
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6. Simplify the expression below and choose the interval the simplification is contained within.

$$9 - 14^2 + 4 \div 16 * 15 \div 1$$

- A. $[203.8, 205.3]$
- B. $[205.2, 211.4]$
- C. $[-185.1, -182.9]$

- D. $[-188, -183.7]$
E. None of the above
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7. Simplify the expression below into the form $a + bi$. Then, choose the intervals that a and b belong to.

$$(-2 - 8i)(6 + 7i)$$

- A. $a \in [-12, -5]$ and $b \in [-58, -55]$
B. $a \in [-70, -65]$ and $b \in [27, 40]$
C. $a \in [39, 48]$ and $b \in [-63, -61]$
D. $a \in [-70, -65]$ and $b \in [-36, -27]$
E. $a \in [39, 48]$ and $b \in [59, 63]$
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8. Choose the **smallest** set of Complex numbers that the number below belongs to.

$$-\sqrt{\frac{660}{6}} + 5i^2$$

- A. Nonreal Complex
B. Irrational
C. Pure Imaginary
D. Not a Complex Number
E. Rational
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9. Simplify the expression below into the form $a + bi$. Then, choose the intervals that a and b belong to.

$$\frac{72 - 55i}{-1 - 2i}$$

- A. $a \in [37.5, 39]$ and $b \in [39.5, 40.5]$

- B. $a \in [6.5, 8]$ and $b \in [198.5, 199.5]$
- C. $a \in [6.5, 8]$ and $b \in [39.5, 40.5]$
- D. $a \in [-72.5, -70.5]$ and $b \in [27, 28.5]$
- E. $a \in [-37, -35]$ and $b \in [-19, -17]$

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10. Choose the **smallest** set of Complex numbers that the number below belongs to.

$$\frac{11}{5} + \sqrt{132}i$$

- A. Irrational
 - B. Rational
 - C. Pure Imaginary
 - D. Nonreal Complex
 - E. Not a Complex Number
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